

RECLOSABLE PAPERBOARD CLOSURE

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority pursuant to 35 U.S.C. Section 119 from United States Provisional Application No. 60/392,696 filed June 28, 2002.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

[0002] Not applicable.

BACKGROUND OF THE INVENTION

[0003] The present invention is directed to a closure for a container. More specifically, the present invention is directed to an all-paperboard, reclosable, tamper evident closure for a container.

[0004] Producers use many different types of containers to hold consumer items. For food products, the container's ability to retain freshness and the consumer's ability to easily identify evidence of tampering and to easily use the container are important issues. Clearly, the container's closure affects these issues.

[0005] For example, paperboard containers used to hold cereal or other grains often are opened by opening the entire top of the container to gain access to the inner liner that holds the product. Unfortunately, there is no way to reseal the liner or the paperboard container to maintain the freshness of the product. In addition, this type of opening is not practical for non-dry products.

[0006] As another example, some containers have an opening defined by a perforation. When the perforation is separated from the container, it allows access to the contents of the

container. The problem associated with this type of opening is that the container cannot be effectively reclosed, which greatly limits the use of this opening.

[0007] As yet another example, some container openings include pour spouts made from plastic or metal components. Although effective, these pour spouts are expensive to manufacture and assemble, often requiring specialized equipment. In addition, as a general rule, whenever a new container shape or a change in packaging is employed, the producer must create a new spout mold.

[0008] Another factor that is important to consumers is that a container includes a mechanism to alert consumers that someone has tampered with the container. One basic example of an anti-tampering mechanism is a pressure sensitive label applied over a spout. If the label is broken, then the consumer is warned that the container has been opened. Unfortunately, in order to use these labels a manufacturer must purchase the labels and the equipment to apply the labels.

[0009] Thus, a cost effective container opening that can be effectively reclosed, that is tamper-evident, and that is easy to use is needed.

SUMMARY OF THE INVENTION

[0010] It is an object of the present invention to provide container having a reclosable closure and a tamper-evident seal.

[0011] It is another object of the present invention to provide an all-paper closure.

[0012] It is yet another object of the present invention to provide a container having a mechanism for locking a moveable tab portion of a closure in the closed position between uses.

[0013] According to the present invention, the foregoing and other objects are achieved by a closure that includes a disc having an aperture and a tab that extends across the aperture.

The tab is adhered to the disc by a method that evidences tampering when the tab is moved to open the aperture.

[0014] Additional objects, advantages, and novel features of the invention will be set forth in part in the description which follows, and in part will become apparent to those skilled in the art upon examination of the following, or may be learned by practice of the invention. The objects and advantages of the invention may be realized and attained by means of the instrumentalities and combinations particularly pointed out in the appended claims.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0015] In the accompanying drawings which form a part of the specification and are to be read in conjunction therewith and in which like reference numerals are used to indicate like parts in the various views:

[0016] FIG. 1 is a perspective view of a container having an unopened all-paper closure according to one embodiment of the present invention;

[0017] FIG. 2 is a perspective view of a container having an opened all-paper closure that had been closed through the use of a heat seal according to one embodiment of the present invention;

[0018] FIG. 3 is a perspective view of a container having an opened all-paper closure that had been closed through the use of a cohesive bond according to one embodiment of the present invention;

[0019] FIG. 4 is a top view of an a container having an opened all-paper closure that had been closed through the use of a cohesive bond according to one embodiment of the present invention; and

[0020] FIG. 5 is a cut-away section of the sidewall of the container and all-paper closure of FIG. 1 taken along line 5-5.

DETAILED DESCRIPTION OF THE INVENTION

[0021] The present invention provides a reclosable, tamper-evident, locking, all-paper closure, as shown in FIGs. 1 through 5. The all-paper closure, which is generally denominated by the numeral 10, includes a disc 13 having an aperture 16 and a tab 20 that extends across aperture 16. Tab 20 is partially removable to expose aperture 16. Tab 20 may be closed by returning tab 20 to its original position and locking it in place. Tab 20 is adhered to disc 13 by a method that evidences tampering when tab 20 is opened.

[0022] Disc 13 is made from paperboard. Preferably, the shape of disc 13 is defined by an opening in a container having at least one sidewall 23. The size of disc 13 should be at least the size of the opening in the container. Preferably, disc (13) should be slightly larger than the opening in the container so that disc 13 fits snugly into the container opening and so that a locking mechanism 26 for closing tab 20 may be formed as shown in FIG. 5.

[0023] Aperture 16 in disc 13 can have any shape or size. Preferably, aperture 16 is of sufficient size to dispense product at a reasonably rate.

[0024] Tab 20 should be of sufficient size to completely cover aperture 16. Tab 20 is removably coupled to disc 13 around the outer periphery of aperture 16. In addition, connecting portion 30 of tab 20 is permanently coupled to disc 13. Preferably, connecting portion 30 is coated with an adhesive and inserted between layers of disc 13. Alternatively, connecting portion 30 may be adhered to the top of disc 13. Connecting portion 30 should be of sufficient size to cause tab 20 to remain coupled to disc 13 by connecting portion 30 when tab 20 is opened.

[0025] Tab 20 may also include a grip portion 31. Preferably, grip portion 31 is folded flat against tab 20 when tab 20 is in a closed position, as shown in FIG. 1. To open tab 20, a user will raise and then pull grip portion 31 so that tab 20 is decoupled from the periphery of aperture 16. Thus, grip portion 31 should be of sufficient size for one to easily grip.

[0026] Conventional techniques may be used to couple tab 20 to disc 13 around the periphery of aperture 16. In FIG. 2, tab 20 had been coupled around the periphery of aperture 16 by a conventional heat seal, which is familiar to those skilled in the art. It should be noted that the top layer of disc 13 has been “kiss cut” around the periphery of aperture 16 so that when tab 20 is opened for the first time, fibers will tear from disc 13 along kiss cut area 33. The torn fibers will alert a consumer that tab 20 has been opened.

[0027] In FIGs. 3 and 4, tab 20 had been coupled around the periphery of aperture 16 by a conventional cohesive bond. To form this bond, a conventional cohesive is applied to the periphery of aperture 16 prior to coupling connecting portion 30 of tab 20 to disc 13. Thereafter, tab 20 is coupled to disc 13 at connection portion 30 and by pressing tab 20 onto the cohesive surrounding aperture 16. It should be noted that tab 20 shown in FIGs. 3 and 4 includes two perforation sections 43. When tab 20 is pulled open, the bond formed between tab 20 and disc 13 at the periphery of aperture 16 by the cohesive will break except at perforation sections 43. Instead, sections 43 will tear away from the remaining portion of tab 20. FIGs. 3 and 4 show sections 43 already torn from tab 20. Preferably, tab 20 will re-adhere to disc 13 when tab 20 is closed.

[0028] FIG. 5 illustrates one manner in which disc 13 may be coupled to the container that also incorporates a locking mechanism 26 for tab 20. As stated above, preferably tab 20 is slightly larger than the opening in the container. When tab 20 is installed it will be placed below

the top edge of sidewall 23 so that a portion of tab 20 is bent upward along sidewall 23. Thereafter, a lip portion 36 of sidewall 23 may be bent inwards and down so that it is in contact with the bent portion of tab 20. With lip 36 so positioned, the end 38 of tab 20 will be positioned closely below lip 36 when tab 20 is coupled to the periphery of aperture 16, thereby locking tab 20 in a closed position.

[0029] From the foregoing, it will be seen that this invention is one well adapted to attain the ends and objects hereinabove set forth together with other advantages which are obvious and which are inherent to the structure. It will be understood that certain features and subcombinations are of utility and may be employed without reference to other features and subcombinations. This is contemplated by and is within the scope of the claims. Since many possible embodiments may be made of the invention without departing from the scope thereof, it is to be understood that all matter herein set forth or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.